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# **Notice of Allowability**

**Application No.**

10/777,127

**Applicant(s)**

JONES ET AL.

**Examiner**

Douglas N. Washburn

**Art Unit**

2863

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to filing of 13 February 2004.
2. ☒ The allowed claim(s) is/are 1-10,12,13,15,18,22,39,43,46,61,62,75,77 and 78.
3. ☒ The drawings filed on 13 February 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## **Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 16 AUGUST & 20 DECEMBER 2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

**DETAILED ACTION**  
**EXAMINER'S AMENDMENT**

1       An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Amend the specification as follows:

**CROSS REFERENCE TO RELATED APPLICATIONS**

This application is a Continuation-In-part of U.S. Application Serial No. 10/416,804, filed October 23, 2003, the content of which is incorporated herein by reference, which is a National Phase Application of PCT/GB01/05029, filed November 14, 2001, and claims the priority of Great Britain Patent Application Nos. 0027886.1, filed November 15, 2000, 0027888.7, filed November 15, 2000, and 01 19787.0, filed August 14, 2001, and claims the benefit of International Application No. PCT/GB02/02245, filed May 14, 2002, which claims the benefit of Great Britain Application Nos. 01 19787.0, filed August 14, 2001, 0206597.7, filed March 20, 2002, and 0209781.4, filed April 29, 2002, the content of all of which is incorporated herein by reference.

***Prior Art Cited***

2 Eagleson et al. (US 6,542,114 and US 6,672,888) teaches an apparatus and method for tracking items using dual frequency tags. The apparatus 10 includes a signpost 11 (second members), a beacon tag 12 (first member), a reader 13, and a control system 14 (signal processor). The apparatus includes a plurality of signposts and tags which each receive a plurality of signals. A microcontroller 21 includes a microprocessor, a ROM containing a computer program and static data for the microprocessor, and a RAM in which the microprocessor stores dynamic data during system operation. The reader 13 receives beacon signals 72 from various beacon tags, verifies receive signal validity, performs error detection and correction as required, extracts information, and routes extracted information to the control system 14. Eagleson is silent regarding a first phase differencing calculator; a first position determiner; a second phase differencing calculator; a second position determiner and a third position determiner. Eagleson is further silent regarding calculating phase difference measurements between phase measurements of frequency components of different received signals, to generate a second set of phase difference measurements; determining a second position measurement of the relative position between the first member and the plurality of second members from the second set of phase difference measurements and the known relative positions of the second members; and determining the relative position between the first member and the plurality of second members using the first and second position measurements.

Carrender (US 6,868,073) teaches a method and system for locating an RF transponder based on phase differences between signals transmitted to the RF transponder. A first transponder transmits to a second transponder first and second signals at first and second frequencies, respectively. The second signal is compared with the first signal and a distance between the first and second transponders is determined based on the phase difference between the first and second signals. The first transponder is an interrogator, the second transponder is an RF tag, and the RF tag determines the phase difference between the two signals. The method can also determine a position (distance and direction) of the RF tag by measuring the distances from two different locations of the interrogator to the RF tag. Carrender is silent regarding a second phase differencing calculator; a second position determiner and a third position determiner. Carrender is further silent regarding calculating phase difference measurements between phase measurements of frequency components of different received signals, to generate a second set of phase difference measurements; determining a second position measurement of the relative position between the first member and the plurality of second members from the second set of phase difference measurements and the known relative positions of the second members; and determining the relative position between the first member and the plurality of second members using the first and second position measurements.

***Allowable Subject Matter***

3 Claims 1-10, 12, 13, 15, 18, 22, 39, 43, 46, 61, 62, 75, 77 and 78 are allowed.

The following is an examiner's statement of reasons for allowance:

Claim 1 recites, in part, "a second position determiner operable to determine a second position measurement of the relative position between the first member and the plurality of second members from the second set of phase difference measurements and the known relative positions of the second members; and a third position determiner operable to determine the relative position between the first member and the plurality of second members using the first and second position measurements". This feature in combination with the remaining claimed structure avoids the prior art of record.

Claims 2-10, 12, 13, 15, 18, 22, 39, 43 and 46 depend from claim 1.

Claim 61 recites, in part, "a second position determiner operable to determine a second position measurement of the relative position between the first member and the plurality of second members from the second set of phase difference measurements and the known relative positions of the second members; and a third position determiner operable to determine the relative position between the first member and the plurality of second members using the first and second position measurements". This feature in combination with the remaining claimed structure avoids the prior art of record.

Claim 62 depends from claim 61.

Claim 75 recites, in part, "a first phase differencing calculator operable to calculate, for each received signal, a phase difference between the phase measurements of the first and second frequency components of the received signal, to generate a first set of phase difference measurements; a second phase differencing calculator operable to calculate phase difference measurements between phase measurements of frequency components of different received signals, to generate a second set of phase difference measurements; and an output operable to output said first and second set of phase difference measurements for transmission to a central position processor". This feature in combination with the remaining claimed structure avoids the prior art of record.

Claim 77 recites, in part, "determining a second position measurement of the relative position between the first member and the plurality of second members from the second set of phase difference measurements and the known relative positions of the second members; and determining the relative position between the first member and the plurality of second members using the first and second position measurements". This feature in combination with the remaining claimed structure avoids the prior art of record.

Claim 78 recites, in part, "instructions for determining a second position measurement of the relative position between the first member and the plurality of second members from the second set of phase difference measurements and the known relative positions of the second member; and instructions for determining the relative position between the first member and the plurality of second member". This feature in combination with the remaining claimed structure avoids the prior art of record.

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It is these limitations, which are not found, taught or suggested in the prior art of record, and are recited in the claimed combination that makes these claims allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***


4 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas N. Washburn whose telephone number is (571) 272-2284. The examiner can normally be reached on Monday through Thursday 6:30 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DNW

  
MICHAEL NGHIEM  
PRIMARY EXAMINER